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ABSTRACT

With the eventual aim of developing a "Total Army School System," the U.S. Army requested an independent and objective assessment of the operation of the Reserve Component (RC) training system. The first portion of the analysis dealt with the extent to which RC Training Institutions (RCTI) were successful at meeting units' training requirements. Data showed a sizable training requirement for reclassification training, but the RC school system faced two main problems: it lacked capacity to provide a place for all soldiers needing training and one-third of the quotas allocated went unused. The current RCTI school training capacity was considerably smaller than this large requirement. Three main areas related to training quality were assessed: qualified instructors, appropriate support on hand at training sites, and presence of correct and up-to-date training courseware. Results indicated more problems with courseware than with the other elements of quality. Training materials were often received too late and in insufficient quantities and were outdated and inadequate. Instructors also reported that training was sometimes seriously impeded by a lack of training support. Instructor qualifications were not a serious problem. Personnel costs accounted for 87 percent of the total RCTI cost estimates. Nearly half the total cost of operating RCTIs was paid for with fixed dollars; extra dollars contributed relatively little to the total cost of training. (YLB)

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Restructuring the Total Army School System

John D. Winkler

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Restructuring the Total Army School System

John D. Winkler

Prepared for the
United States Army

Arroyo Center

Approved for public release; distribution unlimited

PREFACE

The U.S. Army is considering ways to streamline and consolidate its extensive system of training institutions that serve both the Active Component and the Reserve Components (RC). The eventual aim is to develop a "Total Army School System" (TASS) that would be more efficient and integrated across the various components. Some organizational changes are now being tested in a prototype regional school system (Region C) during 1994 and 1995. Given the magnitude of the changes envisioned, RAND's Arroyo Center was asked to independently assess the operation of the RC school system. This documented briefing provides a baseline description of the RC system's operation, including quantitative data on (a) training requirements and school production, (b) quality of training, and (c) resources and costs.

The material contained in the main body of this document was presented as a briefing in July 1995 for the Reserve Component Coordination Council (RCCC), chaired by the Army Vice Chief of Staff.[1] The research was sponsored by the Deputy Commanding General, U.S. Army Training and Doctrine Command, and was conducted in the Arroyo Center's Manpower and Training Program. The Arroyo Center is a federally funded research and development center sponsored by the United States Army.

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[1]For the full technical report from which this briefing is drawn, see John D. Winkler et al., *Assessing the Performance of the Army Reserve Components School System*, Santa Monica, CA: RAND, MR-590-A, 1996.

SUMMARY

For some time, the U.S. Army has recognized persistent problems in its extensive system of schools that provide technical and leadership training for the Reserve Components (RC)—the U.S. Army Reserve (USAR) and the Army National Guard (ARNG). To respond to these concerns, the Army (beginning in FY94) initiated a test of a "prototype" regional school system in the southeastern United States for achieving consolidations and improving training standards, which, among other things, served as a foundation for a longer-term goal—establishing a cohesive and efficient Total Army School System (TASS) of fully accredited and integrated schools to serve all Army components.

Given the magnitude of change envisioned for the TASS, RAND's Arroyo Center was asked to independently and objectively assess the operation of the RC school system, including the TASS concept. This documented briefing provides a baseline description of the RC training system in terms of three key assessment areas: (1) training requirements and school production; (2) quality of training; and (3) resources and costs. It also describes how the prototype may affect the range of problems described by the data.

TRAINING REQUIREMENTS AND SCHOOL PRODUCTION

The first portion of the analysis dealt with the extent to which Reserve Component Training Institutions (RCTIs) are successful at meeting units' training requirements. To do so, the system must identify personnel who require training and then schedule and conduct courses to produce the desired number and types of graduates. We considered both reclassification training, which allows soldiers who have changed jobs to become qualified in their new duty military occupational specialty (MOS), and noncommissioned officer (NCO) education, which prepares individuals for leadership.

Reclassification Training

Our data from FY94 show a sizable training requirement for reclassification training: As many as 16 percent of all assigned personnel needed training to become qualified for their duty MOS. In serving this

requirement, the RC school system faces two main problems. First, it lacks the capacity to provide school seats for all soldiers needing training. In FY94, seat quotas allocated to the RCTIs represented only about 37 percent of the potential requirement. Second, about one-third of the quotas allocated went unused during the year (primarily because some classes and quotas were canceled and because all available seats were not filled). Thus, available training was not utilized as efficiently as it might have been. Of 85,000 personnel requiring training, the system graduated about 20,000 students (23 percent of the requirement).

NCO Training

The system is providing training to many NCOs as they are promoted. Of the approximately 19,000 soldiers promoted to grades E5–E7 in FY94, for example, 78 percent received their training in the same or prior year. However, we also found a large potential backlog of individuals needing to complete the NCO course required for their grade and duty MOS skill level, encompassing about one-third of NCOs in grades E5–E7. The current RCTI school training capacity is considerably smaller than this large requirement. The shortfall arises from both capacity constraints and from the inability to efficiently utilize existing capacity.

TRAINING QUALITY

We assessed three main areas related to training quality—qualified instructors; appropriate support on hand at training sites (e.g., equipment, ammunition, facilities); and the presence of correct and up-to-date training courseware—in terms of availability and adequacy. The data came mostly from special surveys of RCTI administrators and instructors, but we also drew on surveys of students and on our own visits to numerous schools and training courses.

The results indicate more problems with courseware than with the other elements of quality. RCTI administrators and instructors commonly reported that they received training materials too late and in insufficient quantities for the class size. They also frequently criticized courseware and supporting materials (e.g., tests) as outdated and inadequate.

Instructors also reported that training was sometimes seriously impeded by a lack of training support (especially equipment, ammunition, training aids, and supplies)—most acutely in Inactive Duty Training (IDT).

The results show that instructor qualification is not a serious problem with instructors in the courses we sampled. A far more serious problem

affecting instructional quality and school capacity is getting enough qualified instructors.

TRAINING RESOURCES AND COSTS

The Army has long recognized difficulties in estimating the amount of resources devoted to RC training and assessing how efficiently they are employed. We assessed the extent of resources used in a sample of courses and schools (including such items as instructor and staff manning, travel, student costs, equipment and supplies, and facilities and installation support). We then attempted to identify the key cost drivers and to suggest system characteristics that may hamper efficiency.

Results show that personnel costs—training manpower and student costs—account for 87 percent of the total RCTI cost estimates. In addition, nearly half the total cost of operating RCTIs is paid for with unit training dollars allocated for IDT and Annual Training (AT). These are "fixed" costs in that they are part of overall authorized Army end strength and occur within RC soldiers' 39-day-per-year training allotment. Supplementary dollars—that is, extra funding to augment training in RCTIs—contribute relatively little to the total cost of training. Therefore, significant efficiency gains will have to come mostly from changes in manpower.

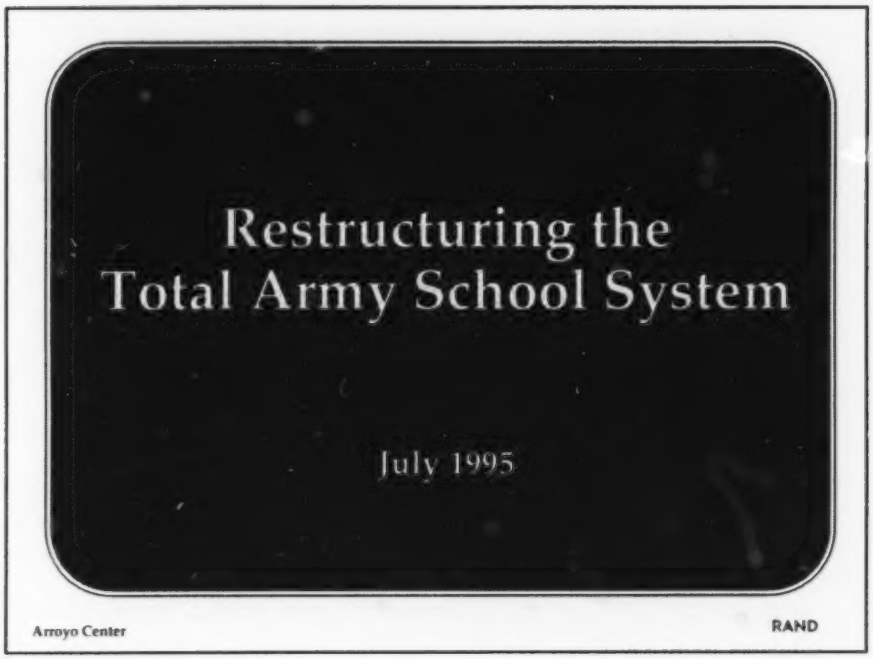
Focusing specifically on RCTI use of manpower, we noted that varying types of schools differed sharply in their apparent efficiency levels. Multifunctional schools use more training manpower than do specialized schools, suggesting that to achieve greater efficiency, RCTIs may need to move toward becoming larger and more specialized (though fewer in number), with more fixed sites and organic assets, and with repeated courses with more predictable student loads.

IMPLICATIONS

These assessments attest to systemic problems in the RC training system, and although the prototype is poised to address some of them, many go well beyond it. For example, the most fundamental quality problem lies not with instructors or support resources but with courseware and its distribution system. Although increased consolidation and specialization should help, achieving further efficiencies will require new standards relating school workload to staffing and improved resource planning and management systems. Perhaps even more fundamental is the mismatch between the large stated "requirement" and the smaller capacity of RCTIs.

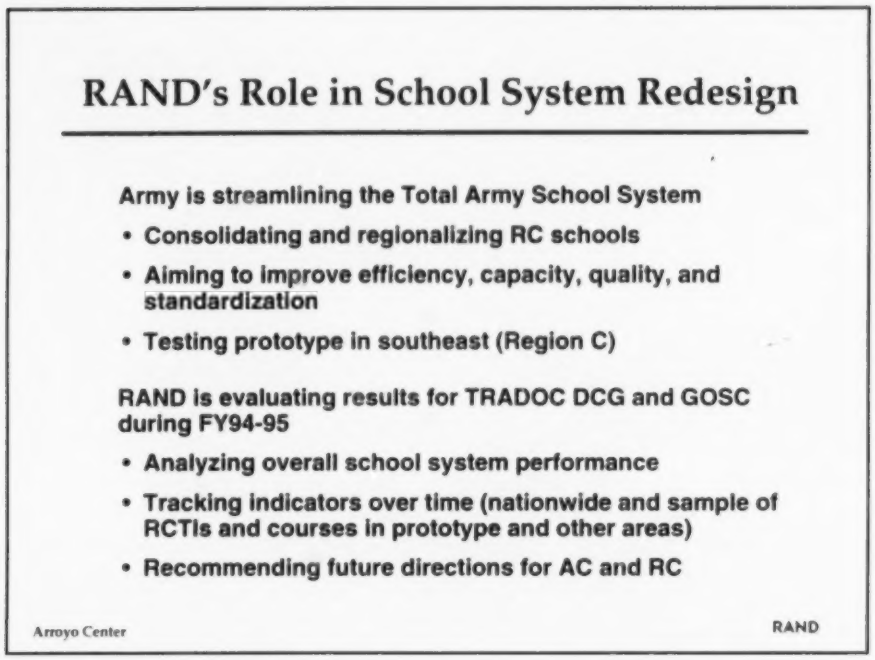
Some headway could be made by improving utilization of existing capacity, for example by filling more quotas with the "right" soldiers and canceling fewer classes. However, the size of the requirement and priorities for managing it must also be addressed, necessitating changes outside the school system itself. This might be achieved by a combination of favoring high-priority units, focusing on improving duty MOS qualification rates in the areas of greatest need, and reducing personnel turbulence, which is the fundamental driver of training requirements.

Future directions for research include analyzing policy options for managing training requirements and allocating training capacity. Such analyses include identifying changing requirements in the future (e.g., determining which units and MOSs need/deserve priority), modeling future behavior of the school system given changing requirements and different strategies for allocating capacity, and analyzing potential efficiencies (e.g., reconfiguring schools to utilize total Army training assets in the most efficient way to meet the needs of the AC and the RC).



This briefing describes RAND research that is examining the potential for restructuring and consolidating schools that conduct individual training in the Active Component (AC) and Reserve Components (RC).

The current research focus is on the system of schools providing individual training in the Reserve Components—Reserve Component Training Institutions (RCTIs) such as Guard state military academies (SMAs), U.S. Army Reserve Forces (USARF) Schools, regional NCO academies (NCOAs), and regional training sites (RTS). The aim is to provide a top-down, quantitative picture of conditions and problems so the Army can realistically assess the success of restructuring initiatives, with particular attention to the TASS regional prototype being established in the southeastern United States.


RAND's Role in School System Redesign
Army is streamlining the Total Army School System
• Consolidating and regionalizing RC schools
• Aiming to improve efficiency, capacity, quality, and standardization
• Testing prototype in southeast (Region C)
RAND is evaluating results for TRADOC DCG and GOSC during FY94-95
• Analyzing overall school system performance
• Tracking indicators over time (nationwide and sample of RCTIs and courses in prototype and other areas)
• Recommending future directions for AC and RC
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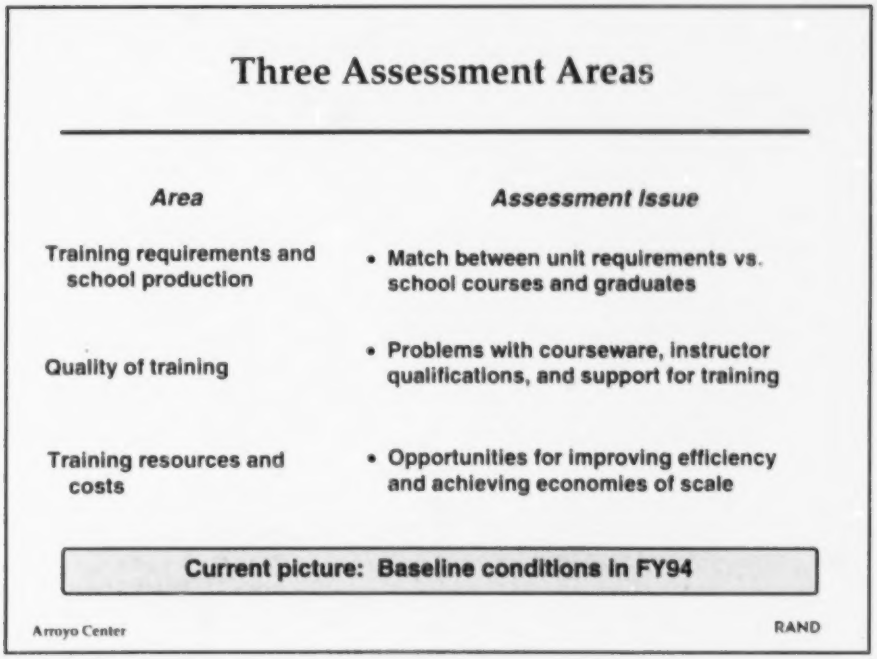
The Army has launched a number of initiatives to streamline and consolidate its extensive system of schools and centers serving the AC and the RC, with the aim of reducing duplication, improving efficiency, and improving training standards.

The most notable of these initiatives is the "Total Army School System" (TASS) initiative, spearheaded by TRADOC, in which the Army is reorganizing its RC schools. This involves consolidating schools on a regional basis, specializing and aligning training institutions along functional lines, and strengthening quality assurance procedures. Initial implementation occurred in the southeastern United States during FY94, with the first full year of operations in FY95. The prototype is expected subsequently to expand to other regions.

Of course this is not the only consolidation initiative underway—the USAR has been reorganizing its training divisions, and the Army Guard is consolidating individual training to selected "regional sites."

RAND's role is to provide an objective, arm's-length assessment of the success of these various initiatives. Our approach begins by defining ***indicators*** of school system performance in key areas. We then use these indicators as performance benchmarks for measuring the effects of reorganization. Some of these indicators are national in scope, with data coming from Army personnel and training data systems. Others require new data, which we are collecting from a sample of schools and courses in selected areas of the United States. Together, these provide an integrated picture of school performance in the key areas.


Three Assessment Areas
Area
Assessment Issue
Training requirements and school production
• Match between unit requirements vs. school courses and graduates
Quality of training
• Problems with courseware, instructor qualifications, and support for training
Training resources and costs
• Opportunities for improving efficiency and achieving economies of scale
Current picture: Baseline conditions in FY94
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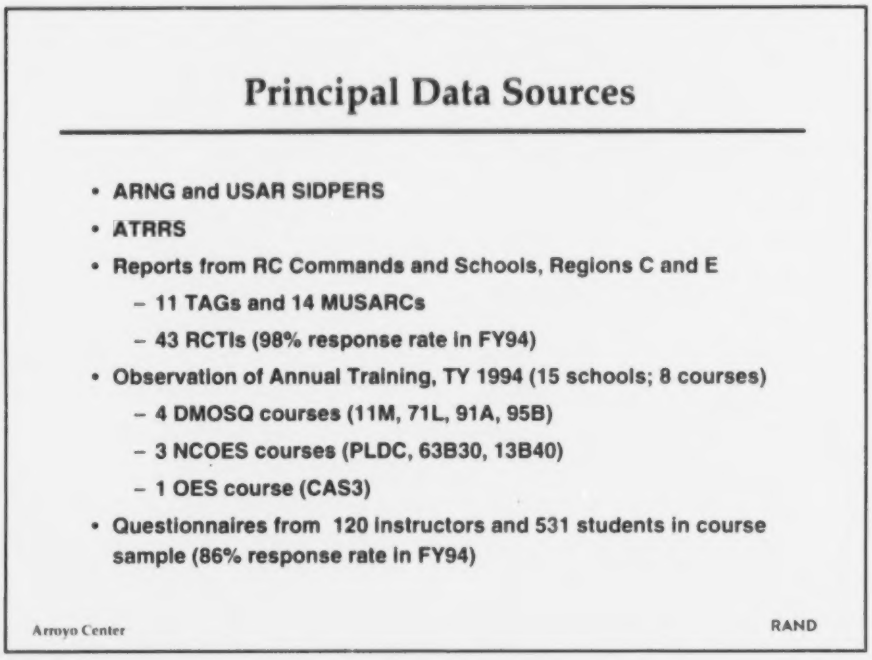
RAND's assessment examines school system performance in three fundamental areas where organizational and management changes could make a difference in improving school operation and performance.

The first area concerns the extent to which the RC school system is successful at meeting units' requirements (i.e., establishing the number of personnel needing training and, for those who can be served in RCTIs, meeting those needs by scheduling courses and conducting them so as to produce the desired number and types of graduates).

The second area is the quality of training, which involves improving the capability of schools to deliver training to established standards by having correct and up-to-date training products, qualified instructors, and appropriate support on hand (e.g., equipment, ammunition, facilities).

The third area is efficient use of resources; improvements in this area would involve reducing duplication, increasing capacity utilization, and lowering costs, and such improvements would be manifested in changes that make better use of manning, equipment, facilities, travel funds, and other categories of resources.

We have identified a number of detailed quantifiable measures in each of these areas. We used them during our two-year assessment of the system and the prototype, establishing baseline conditions to "size the problems" during program implementation (FY94). Quantitative analyses reflecting the prototype's effects on performance measures then begin in FY95.


Principal Data Sources
• ARNG and USAR SIDPERS
• ATRRS
• Reports from RC Commands and Schools, Regions C and E
– 11 TAGs and 14 MUSARCs
– 43 RCTIs (98% response rate in FY94)
• Observation of Annual Training, TY 1994 (15 schools; 8 courses)
– 4 DMOSQ courses (11M, 71L, 91A, 95B)
– 3 NCOES courses (PLDC, 63B30, 13B40)
– 1 OES course (CAS3)
• Questionnaires from 120 instructors and 531 students in course sample (86% response rate in FY94)
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To measure school system performance, we collected data from existing systems when possible; ultimately, however, we had to create new data-collection mechanisms to capture some of the information. Where data existed, we sought a national-level look, but where new data were needed, we focused on a sample of schools and courses in Region C and a comparison region (Region E, the upper midwest).

We used FY93 end-of-year data from ARNG and USAR SIDPERS files to estimate training requirements for reclassification training and noncommissioned officer (NCO) professional development at the beginning of FY94.

New data-collection methods were used to gather data on training quality, resources, and costs. We collected data on resources and costs from RC headquarters and RCTIs (43 of 44 schools in Region C and E)—a 98 percent response rate.

To collect data on quality of training, we visited annual training at 15 separate locations (8 courses, each taught by an RCTI in Region C and E, for a total of 16 classes—except for one that we were unable to attend). The courses and schools were selected to represent major distinctions among type of training and RCTI—that is, reclassification training (DMOSQ), NCO leader and technical training, and officer training, as conducted in ARNG SMAs, USARF schools, NCOA, and RTS-Ms. Student and instructor questionnaires were administered during these visits, and instruction was observed and compared to the program of instruction (POI) requirements. RAND staff also discussed issues related to training quality with school commandants and staff.

Assessment of Training Requirements and School Production

Issues assessed

- **How many soldiers need training in RCTIs?**
- **Are courseware and courses available?**
- **Are school capacity and production meeting the need?**

Areas analyzed

- **Reclassification training (DMOSQ)**
- **NCO education (PLDC, BNCOC, ANCOC)**

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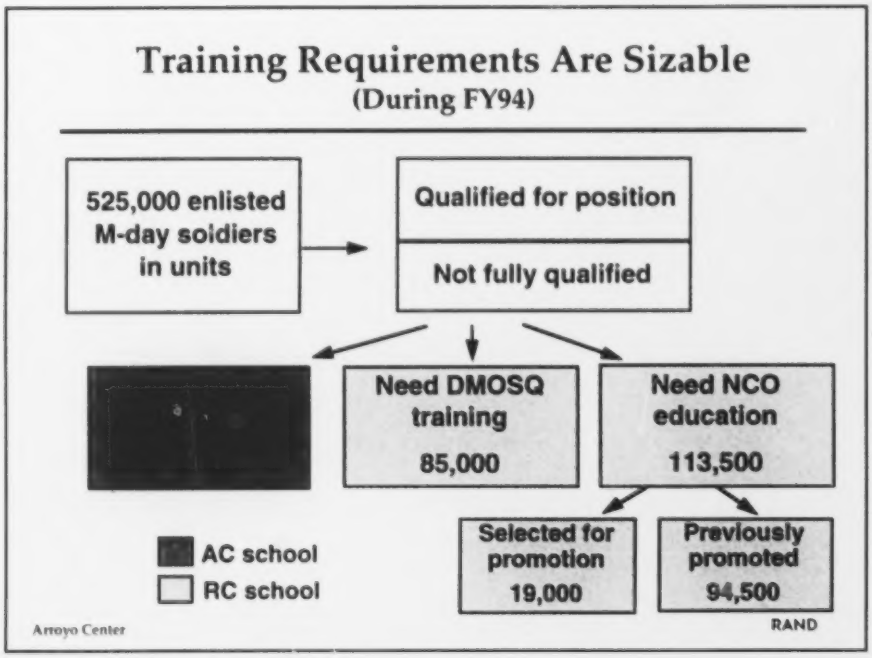
This chart outlines emerging results, beginning with our analysis of training requirements and school production. Here, we are aiming to determine the size of the requirement and the number of soldiers who could be trained in an RCTI if a course were offered.

Given current responsibilities, we are particularly concerned with reclassification training (DMOSQ) and professional education (in this case, NCOES).

In all cases, we focus on drilling guardsmen and reservists (M-day soldiers), comparing their primary and duty MOS (for DMOSQ) and their grade and military education level (MEL) as recorded in SIDPERS.



In general, we see that sizable numbers of drilling reservists are not qualified for their duty position and/or have not fully completed the NCOES required for their grade (PLDC, BNCOC, or ANCOC). Currently, soldiers who need to complete their initial entry training are required to receive it in an AC school. The remainder—the reclassification and NCOES requirements—are in principle trainable at RCTIs.

Clearly these numbers are considerable. Based on Army personnel records, 85,000 soldiers show a "mismatch" between their duty MOS and their "earned" MOS—48,000 ARNG soldiers and 37,000 USAR soldiers, respectively. Many (though not all) of these soldiers would seem to need reclassification training. This amounts to 16 percent of all enlisted drilling reservists.

At the same time, 113,500 soldiers show a need to complete NCOES. Soldiers needing NCOES for promotion to the next-higher grade—the subjects of the Army's new "select, train, promote" policy—are only a small part of the requirement. A much larger number are NCOs who are shown in Army personnel systems as having been promoted without fully completing the NCOES required for their grade and duty MOS skill level. Overall about 44 percent of all drilling reservist NCOs in grades E5 through E7 have been promoted and hold duty MOSs with skill levels for which they have not fully completed the required NCO course.

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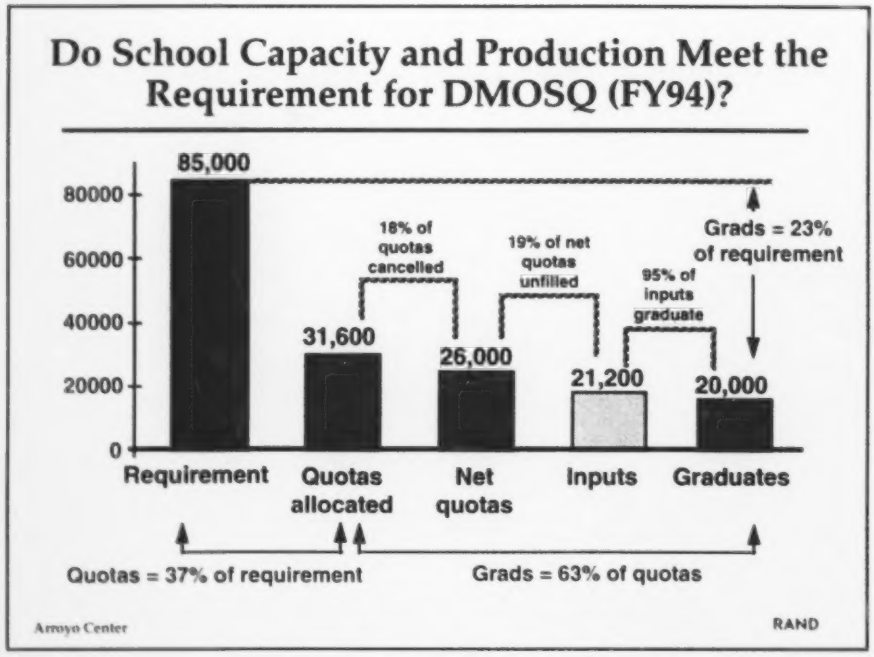

Next, we examine reclassification training, showing figures from across the nation in FY94 (the year in which the prototype began to be implemented). We focus on how much of the RCTI training requirement is met given available courses and classes. We compare classroom capacity to need, how well this capacity is utilized in RCTIs, and how many graduates the RCTIs produce in relation to requirements and capacity.

This chart shows the capacity of RCTIs to train the 85,000 soldiers showing a need for reclassification training in FY94. As you can see, the amount of available capacity, measured as quota allocations, is far less than the number of soldiers needing training. In this sense, there is no "excess capacity" in RCTIs, insofar as capacity exceeds need.

A key problem, however, is what happens to these quotas. Many of the initial quotas are "lost" because of canceled classes—often because of problems in using ATRRS in the RC, failure to meet minimum class size, and lack of available resources. Additional quotas are lost because of unfilled seats in classes that are held. As this chart shows, altogether these losses amount to about a third of the initial quotas.

The principal problem, from a system management perspective, is the loss of available capacity.

Different Picture Emerging for NCOES

- Most NCOs receive professional education when promoted
  - 78% of current promotees getting NCO course in same or prior year
- Schools have sufficient capacity to handle promotion-based requirements
  - But NCOES backlog could overwhelm capacity
- Technical NCO courses difficult for RC schools to execute
  - Many seats unfilled in technical courses (24 percent)
  - Reasons include low-density MOSs, competition with collective training

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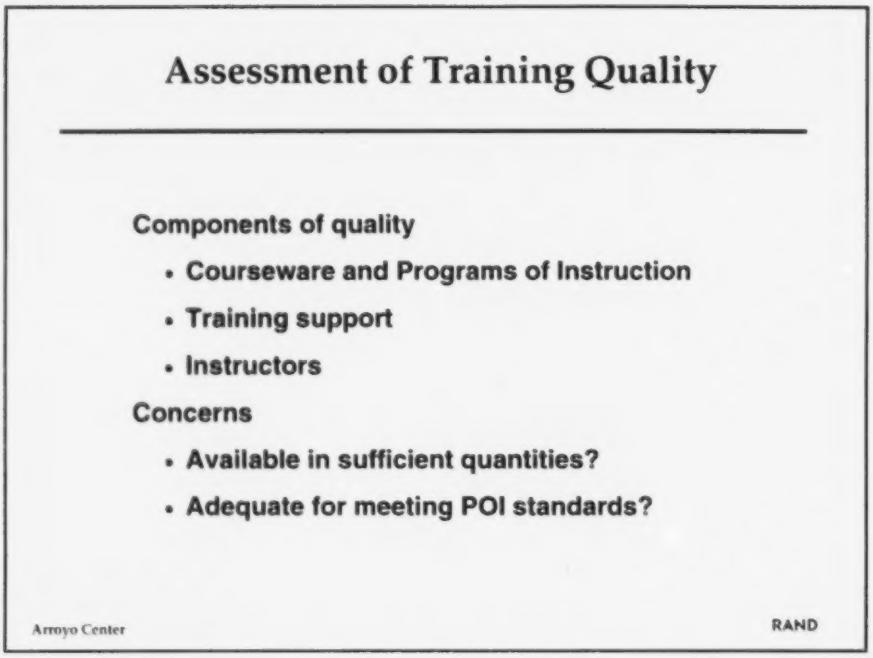
In comparing NCO training requirements to capacity, we see a somewhat different picture. Ideally, the training requirement equals the promotion rate, because "select, train, promote" is being followed so that the soldier is selected for promotion, sent to NCOES, then promoted to the next-higher grade. In fact the RC are making headway in training those soldiers who are being promoted—of those soldiers promoted to grades E5–E7 in FY94, 78 percent received their NCOES in the same or prior year.

If that were the totality of the training requirement, the capacity of the system is more than adequate, because the number of quota allocations for NCOES is larger than the number of annual promotions to grades E5–E7. The problem, however, is the backlog of previously promoted NCOs who have not fully completed the NCOES required for their grade (shown previously). If these soldiers are to be trained, the backlog currently overwhelms the available seats.

And as was the case with DMOSQ training, capacity is not fully utilized. Quota utilization is a particular problem for NCO "technical" courses—24 percent of the available training seats were unfilled during the MOS-specific phase of the basic and advanced noncommissioned officers courses. There are several reasons for this, including the difficulty of assembling sufficient numbers of senior NCOs given decreasing densities, competing demands for collective training, and reductions in supplementary funds for extra ATs.

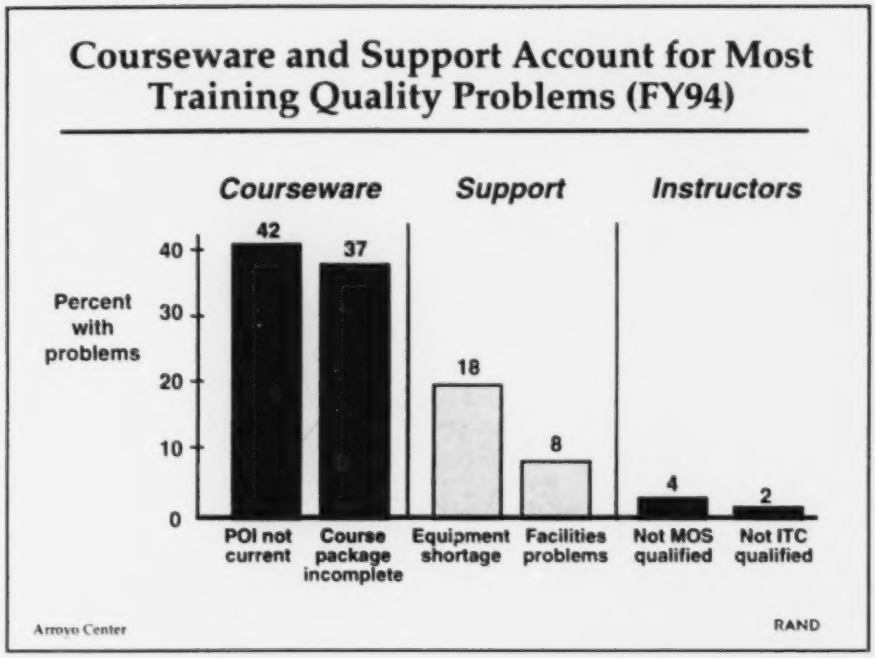


We now turn to our assessment of training quality, for which we rely on results of questionnaires from RCTI managers, instructors, and students, as well as on our own observations of ATs conducted in 8 courses and 15 schools. In this area, we focused specific research questions around three aspects of quality: instructors, training support, and courseware and POIs. For each element of quality, we are interested in whether the element is on hand in sufficient quantities and adequate for meeting the POI requirements.

In the instructor area, we focus on whether there are enough instructors who are expert in the subject matter and possess the required teaching skills to deliver the needed instruction.

In the training support area, we address whether the instructor receives specific resources of the right kind needed to conduct instruction, including equipment, training aids, supplies, and ammunition that may be specified in the POI. Also included are facilities such as classrooms, ranges, billets, and messes needed at the location where instruction occurs.

In the courseware area, we are concerned with the POI, as well as with supporting material such as handouts, references, and tests.

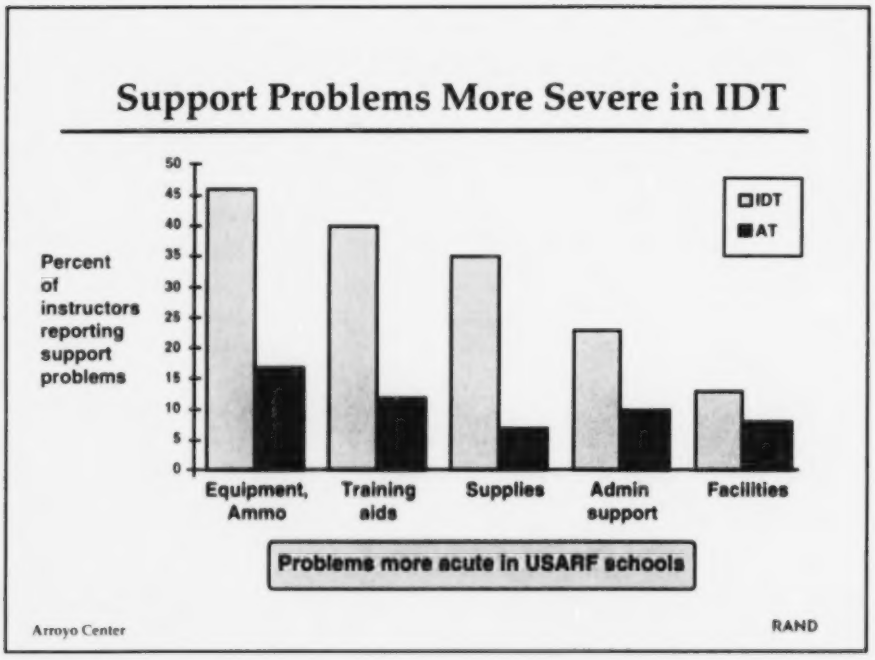


Our results show more problems with courseware than with the other elements of quality. RCTI instructors and staff criticized courseware and supporting materials (e.g., tests) as outdated and inadequate. They also reported that they received training materials too late and in insufficient quantities for the class size.

We also heard of many problems regarding the availability of training support—especially equipment, ammunition, and training aids, which caused "moderate" to "severe" problems in providing IDT and AT instruction.

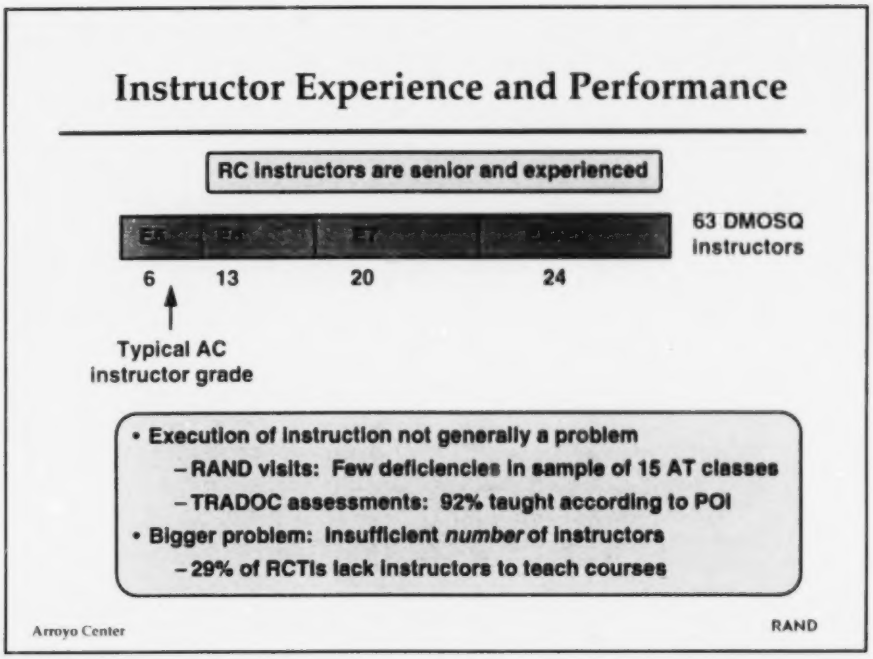
On the other hand, the results show that instructor qualiiication is not a serious problem with instructors in the courses we sampled. Of these, 96 percent were fully qualified in the MOS they were teaching, and 98 percent had completed the prescribed instructor training course.

These results challenge some common assumptions about what is wrong with training quality in RCTIs. It reminds us that a lot of emphasis is needed on "making training happen"—ensuring that courseware is adequate and resources available.



Problems with training support are magnified, however when one compares IDT (weekend drill) instruction with AT. As the above chart shows, problems with support were much more severe in IDT than in AT; equipment and ammunition were rated as the greatest support problems, followed by training aids; facilities were rated as having fewest problems.

When we look at responses from RCTI staff about problems with training support by type of school, we find that USARF schools, which teach a greater percentage of DMOSQ and NCOES technical courses and teach at temporary AT training sites, reported much greater difficulty in all support areas; specifically, they reported equipment as a greater problem than did other schools.


Instructor Experience and Performance
RC instructors are senior and experienced
63 DMOSQ instructors
6
13
20
24
Typical AC instructor grade
• Execution of instruction not generally a problem
– RAND visits: Few deficiencies in sample of 15 AT classes
– TRADOC assessments: 92% taught according to POI
• Bigger problem: Insufficient *number* of instructors
– 29% of RCTIs lack instructors to teach courses
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In terms of instructor adequacy, we found that although many in the Army community express concerns about the qualifications of RCTI instructors, this was not a particular problem with instructors in the courses we sampled. In addition to being qualified, most instructors in our sample were fairly experienced. When we look at the grade levels of instructors as reported in instructor questionnaires (as shown in the bar on the above chart), we see that on the whole they were senior; indeed, they hold higher grades than their counterparts teaching similar courses in the AC. Of 63 DMOSQ instructors responding to this question, 44 held grades of E7 or higher (70 percent). In addition, they reported a high level of experience as instructors—an average of 70 months instructing in RCTIs.

We also saw few problems in course execution. In our visits to RCTIs, the courses we observed were almost always conducted to the standard outlined in TRADOC directives and guidance. These views are corroborated by the data collected by TRADOC during assessment and accreditation visits, who found that classes were conducted in accordance with the POI in 92 percent of the cases.

However, in contrast to this picture of generally competent instruction, simply locating enough qualified instructors was more of a problem. Based on the responses from the 44 RCTIs surveyed, 29 percent of them overall described getting enough qualified instructors as a moderate or severe problem.

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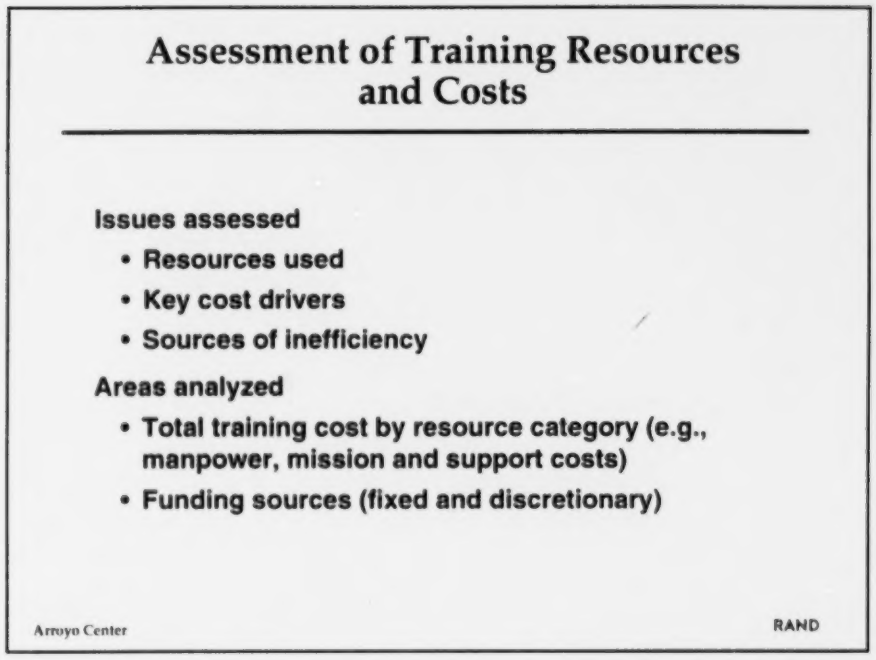
Assessment of Training Resources and Costs
Issues assessed
• Resources used
• Key cost drivers
• Sources of inefficiency
Areas analyzed
• Total training cost by resource category (e.g., manpower, mission and support costs)
• Funding sources (fixed and discretionary)
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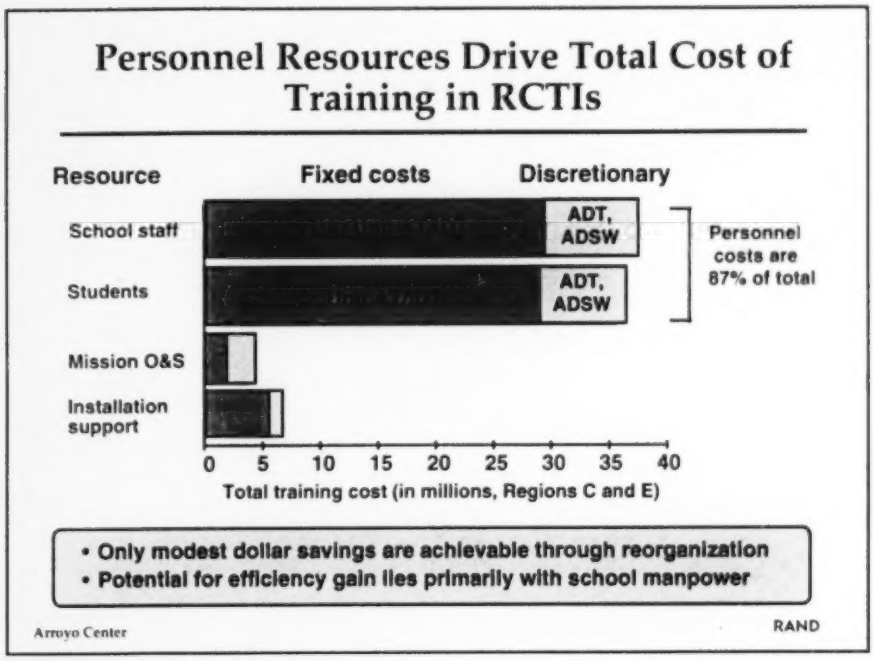
Finally, we turn to the assessment of training resources and costs, where we set out to examine assumptions about the potential for cost savings and efficiency gains achievable through consolidation and reorganization. This includes the assumption that duplication and inefficiency abound in the system, with too many schools, underutilized school capacity, duplication of effort, and uncoordinated training execution. A further assumption is that inefficiency results from a lack of sufficient information to allow adequate management of training resources and costs.

Concerns such as these have led to the belief that reorganizing and consolidating the RC school system would yield better oversight, increased efficiency, and substantial dollar savings.

To examine the truth of these assumptions, we compiled and integrated information on resources and costs—considerably more than had ever been done before from RC commands, schools, and courses. Resource areas examined include training manpower (instructors and staff), student costs, mission operations and support, and installation support.

We then examined how these resources were funded and identified which of them were "sunk" (i.e., used programmed resources such as AT/IDT funds to which all RC soldiers are entitled) versus those that used supplemental funds that might be saved through reorganization (Active Duty for Training/Active Duty for Special Work (ADT/ADSW), funds for providing additional training opportunities).


Personnel Resources Drive Total Cost of Training in RCTIs
Resource
Fixed costs
Discretionary
School staff
Students
Mission O&S
Installation support
ADT, ADSW
ADT, ADSW
Personnel costs are 87% of total
0 5 10 15 20 25 30 35 40
Total training cost (in millions, Regions C and E)
• Only modest dollar savings are achievable through reorganization
• Potential for efficiency gain lies primarily with school manpower
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Results show that personnel costs—training manpower and student costs—dominate, accounting for the lion's share of cost of training in RCTIs. In addition, nearly half the total cost of operating RCTIs is paid for with unit training dollars allocated for IDT and AT, which are "fixed" in that they are part of overall authorized Army end strength and occur within RC soldiers' 39-day-per-year training allotment.

Supplementary dollars—that is, extra funding to augment training in RCTIs—contribute relatively little to the total cost of training—overall just 18 cents on the dollar. Therefore, there is not a lot of free cash to be wrung out of this system, and most efficiency improvements will involve changes in manpower.

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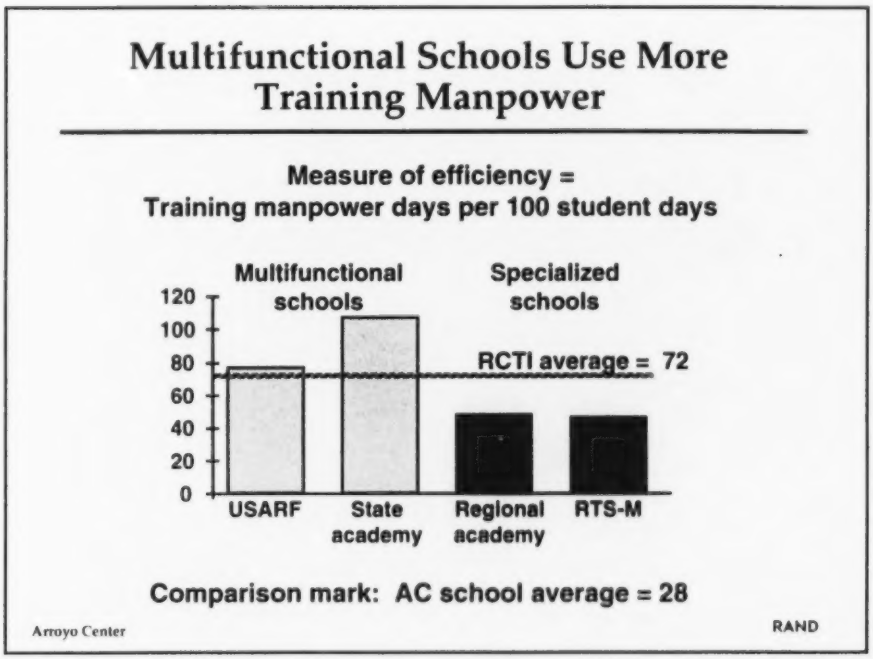

There is, however, evidence that changing the way training is organized and managed can change the efficiency with which resources are used for supporting training. For starters, we observe that RCTIs differ in the composition and funding for school staff, including use of TDA versus borrowed and purchased man-days, availability of full-time support, and reliance on supplementary dollars.

In turn, we also see that there are differences in how productively the school staff is used. We used a measure of efficiency called "training manpower days per student day," which is the ratio of man-days used by schools to support and deliver training (from all sources, including borrowed and part-time personnel) to the student days they produce, as reported by RCTIs and RC commands.

It is interesting to note that AC training institutions, on average, use 28 man-days of training manpower to produce 100 training days. As shown on the above chart, on average, RCTIs in our sample use 72 man-days of instructor and staff support to produce 100 days of student training. And among these, the specialized schools (NCOAs and RTS-Ms) use considerably fewer man-days than the multifunctional schools (USARFs and SMAs).

There are good reasons why RCTIs require more training manpower than AC schools, and some types of RCTIs more than others, given the degree of coordination required to borrow equipment, locate instructors, arrange access to training sites, and so forth. However, this variability in itself potentially indicates the value of larger, consolidated, and more specialized training institutions, such as what is being accomplished in the TASS prototype.

Other School Characteristics that Might Affect Efficiency

Characteristic	USARF	State Academy	Regional Academy	RTS-M
Mission complexity				
Range of courses	Multi-functional	Multi-functional	Specialized	Specialized
IDT/AT split	74% IDT	25% IDT	0% IDT	6% IDT
Support requirements				
Own equipment	No	No	No	Yes
Home location (% student load)	34%	79%	100%	87%
School size				
FTE training manpower	25	24	54	22
Student days per school	8,400	5,700	28,500	11,900

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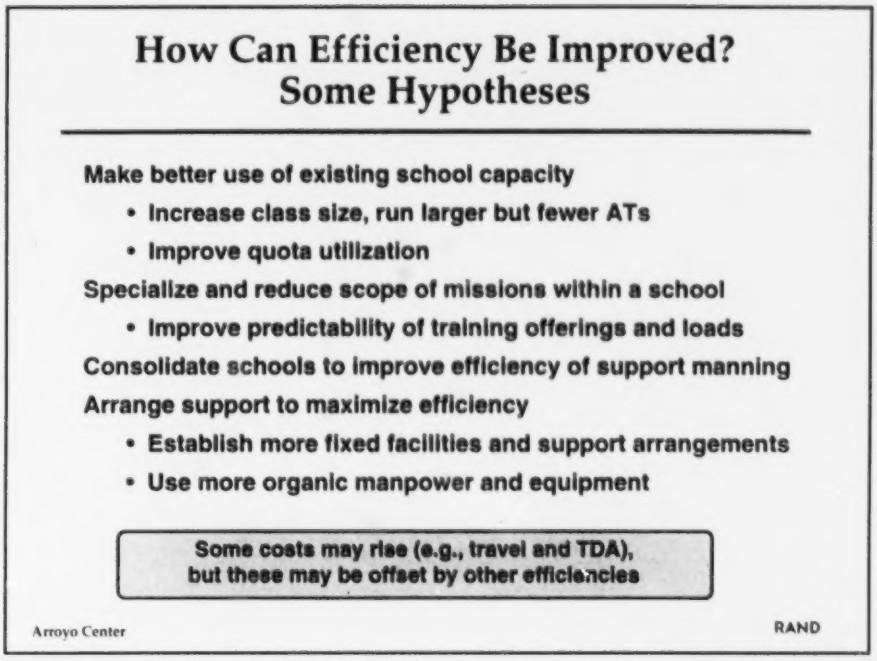
It is fair to say that at this point in our analyses, we cannot definitively say that specialization is *the* factor that distinguishes RCTIs with respect to their efficiency. RCTIs differ from one another (and indeed from AC schools) in a number of ways that affect the efficiency of their operations. Several of these factors are shown in the chart above, including the complexity of the schools' missions, the nature of support required to deliver instruction, and the size of the schools themselves (e.g., the number of full-time equivalent school staff members, including full-time, part-time, and "borrowed" personnel).

The training missions of multifunctional schools (USARFs and SMAs) are often more complex than the specialized schools (RTS-Ms and NCOAs). This causes the multifunctional schools to incur greater workload in arranging for delivery and support for an extensive set of courses, particularly since this involves remote delivery during drill weekends held at multiple locations (as is commonly done in USARF schools). The larger workload for the multi-functional schools drives up the ratio of training man-days per student days.

Regional NCOAs and RTS-Ms benefit from more centralized and well-established support arrangements. RTS-Ms are the only type of RCTI that possess training equipment. All other RCTIs have to borrow virtually all required equipment, class by class, a task that is even more difficult for the multifunctional schools than for the regional NCOAs because of the wider variance of courses taught.

Regional NCOAs also have the advantages of a larger school size. As the chart shows, they are twice the size of the multifunctional schools with respect to training manpower and student throughput, which further enhances opportunities to achieve economies of scale.


How Can Efficiency Be Improved?
Some Hypotheses
Make better use of existing school capacity
• Increase class size, run larger but fewer ATs
• Improve quota utilization
Specialize and reduce scope of missions within a school
• Improve predictability of training offerings and loads
Consolidate schools to improve efficiency of support manning
Arrange support to maximize efficiency
• Establish more fixed facilities and support arrangements
• Use more organic manpower and equipment
Some costs may rise (e.g., travel and TDA),
but these may be offset by other efficiencies
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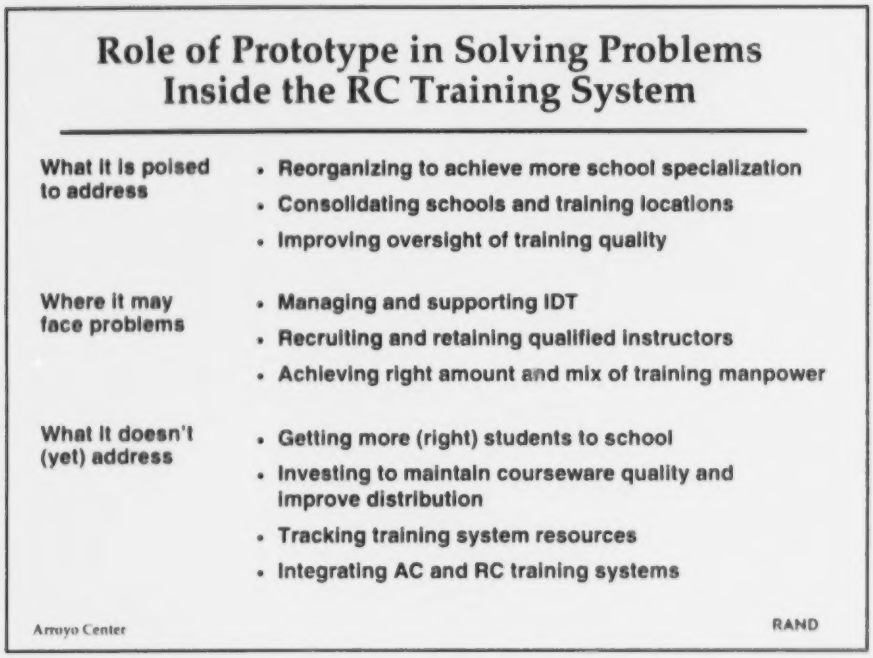
Further (multivariate) analysis would be required to enable us to make definitive statements about relative school efficiency. However, the present descriptive analysis suggests tentative conclusions and recommendations, generally along the line that "fewer but bigger, specialized, with more organic assets" makes for a more efficient RCTI.

Schools are likely to be more efficient as they become more specialized, which can make the coordination, oversight, and execution of training more manageable. Specialization can improve the predictability with which schools can plan and execute their training mission, which can improve accessibility and use of available capacity.

Consolidating the number of schools holds high promise for increasing efficiency in the training system, especially since this provides for fewer facilities with greater access to, and control over, training resources. Such consolidated schools can run fewer but larger classes, making better use of available training capacity, increasing student output, and improving economies of scale.

Efficiency can be enhanced by a certain amount of organic school manning, a greater percentage of fixed facilities, and more assignment of equipment and training aids to schools.

It is possible that some costs will fall while others will rise. More TDY funds might be needed, but such increases could be offset by other efficiencies. For example, our initial data suggest that students already travel a large distance to ATs, with no more distance traveled for courses taught in specialized schools than in multifunctional schools.


Role of Prototype in Solving Problems Inside the RC Training System
What it is poised to address
• Reorganizing to achieve more school specialization
• Consolidating schools and training locations
• Improving oversight of training quality
Where it may face problems
• Managing and supporting IDT
• Recruiting and retaining qualified instructors
• Achieving right amount and mix of training manpower
What it doesn't (yet) address
• Getting more (right) students to school
• Investing to maintain courseware quality and improve distribution
• Tracking training system resources
• Integrating AC and RC training systems
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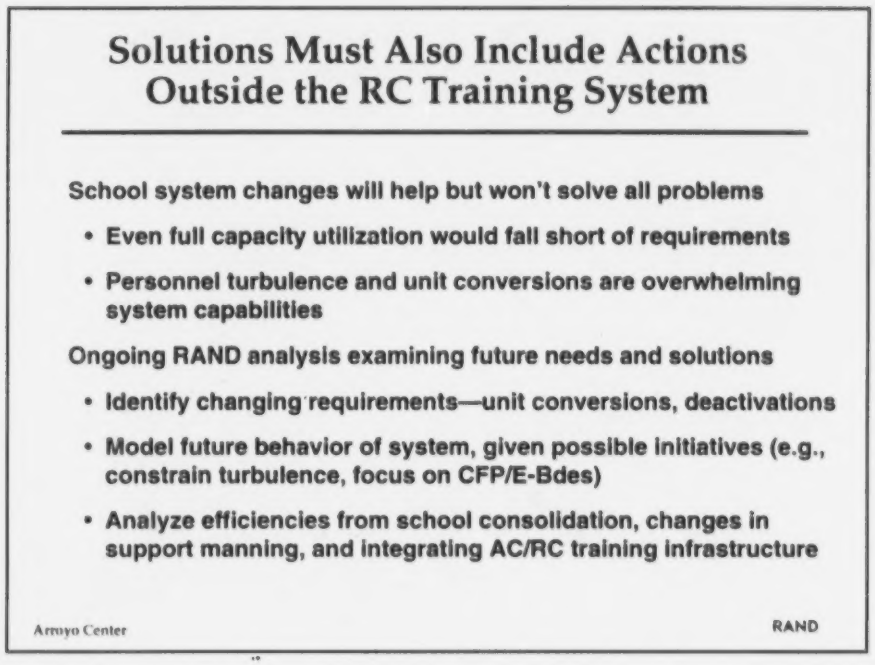
With this basic characterization of RCTIs in mind, we now consider what the Army can do to improve matters, in the context of the TASS reorganization and in other areas related to the school system.

First, in consolidating from many multifunctional to fewer specialized schools, the TASS reorganization can be expected to improve efficiency. The new coordination functions should help improve the availability of training support, and the strengthened quality assurance activities can help ensure that training continues to meet established standards.

But other problems may not be as well addressed, given the results discussed here, and could require new initiatives. These include, for example:

- New procedures for arranging support for IDT (modeled after the existing FORSCOM 156-R procedure);
- New mechanisms (like a centralized registry) for identifying and keeping track of RC soldiers who meet instructor standards;
- New standards relating an RCTI's workload to its staffing, with customized TDAs for each brigade and battalion in each TASS region;
- Increased utilization of ATRRS in units, and new incentives for assuring that soldiers holding reservations are delivered to school;
- POIs with consistent tasks and standards, in blocks configurable for IDT, AT, or continuous instruction, with a modernized distribution system;
- A resource management and tracking system, integrated across the components, that allows for cross-component exchange of funds.
- Further integration of AC and RC training assets and infrastructure.


Solutions Must Also Include Actions Outside the RC Training System
School system changes will help but won't solve all problems
• Even full capacity utilization would fall short of requirements
• Personnel turbulence and unit conversions are overwhelming system capabilities
Ongoing RAND analysis examining future needs and solutions
• Identify changing requirements—unit conversions, deactivations
• Model future behavior of system, given possible initiatives (e.g., constrain turbulence, focus on CFP/E-Bdes)
• Analyze efficiencies from school consolidation, changes in support manning, and integrating AC/RC training infrastructure
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Although school system improvements will help, the Army will ultimately need to institute structural solutions or changes that lie outside the RC schools' scope of responsibility.

Even if the existing capacity of the RCTIs were fully utilized, the system's output would still fall short of requirements. Another fundamental problem for the RC is the turbulent environment that degrades the stability of their personnel structure, including attrition and turnover from downsizing, doctrinal changes, promotion opportunities, prior-service reclassifications, and unit conversions.

Future RAND analysis will focus on needs and policy options for managing training requirements and allocating training capacity. For example, as unit deactivations, swaps, and conversions increase training requirements, decisions must be made about how to set priorities in the areas of greatest need, given available capacity and resources (e.g., by focusing first on high-priority units or DMOSQ).

In the longer term, the Army will need to consider strategic alternatives for how to use all its training assets to maximum advantage. Such alternatives can include, for example, new ways for combining training infrastructure (personnel, equipment, facilities) to support the training of AC and RC soldiers (e.g., by augmenting training manpower, leveraging facilities, and so forth). An analytical model that simultaneously considers the capabilities and relative affordability of training conducted with AC and RC assets will be helpful for determining how to use total infrastructure in the wisest way.

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